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RC002-NMS1 (REV.C) User Manual

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Feedback

Comments and questions about how the RC002-NMS1 device works are welcomed. Please review the FAQ in the related manual, and if your question is not covered, send email by using the following web page:

http://www.raisecom.com/en/xcontactus/contactus.htm.

If you have comments on the RC002-NMS1 specification, instead of the web page above, please send comments to:

export@raisecom.com

We hope to hear from you!

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General Safety Instructions

The following instructions serve as a general guide for the safe installation and operation of telecommunications products. Additional instructions, if applicable, are included inside the manual.

Safety Symbols

This symbol may appear on the equipment or in the text. It indicates potential safety hazards regarding product operation or maintenance to operator or service personnel.

Danger of electric shock! Avoid any contact with the marked surface while the product is energized or connected to outdoor telecommunication lines.

Protective earth: the marked lug or terminal should be connected to the building protective earth bus.

Some products may be equipped with a laser diode. In such cases, a label with the laser class and other warnings as applicable will be attached near the optical transmitter. The laser warning symbol may be also attached.
Please observe the following precautions:
• Before turning on the chassis with optic module, make sure that the fiber optic cable is intact and is connected to the transmitter.
• Do not attempt to adjust the laser drive current.
• Do not use broken or unterminated fiber-optic cables/connectors or look straight at the laser beam.
• The use of optical devices with the equipment will increase eye hazard.
• Use of controls, adjustments or performing procedures other than those specified herein, may result in hazardous radiation exposure.
ATTENTION: The laser beam may be invisible!

Always observe standard safety precautions during installation, operation and maintenance of this product. Only qualified and authorized service personnel should carry out adjustment, maintenance or repairs to this product. No installation, adjustment, maintenance or repairs should be performed by either the operator or the user.
All extension slots are not hot-swappable
Before operating modules in the electricity conditions, please be noticed that optical modules shall be connected with optical fiber wires or shield with optical module cover for fear that laser light harms to operator’s eyes. Handling Energized Products

General Safety Practices

Do not touch or tamper with the power supply when the power cord is connected. Line voltages may be present inside certain products even when the power switch (if installed) is in the OFF position or a fuse is blown. For DC-powered products, although the voltages levels are usually not hazardous, energy hazards may still exist.

Before working on equipment connected to power lines or telecommunication lines, remove jewelry or any other metallic object that may come into contact with energized parts.

Unless otherwise specified, all products are intended to be grounded during normal use. Grounding is provided by connecting the mains plug to a wall socket with a protective earth terminal. If an earth lug is provided on the product, it should be connected to the protective earth at all times, by a wire with a diameter of 18 AWG or wider. Rack-mounted equipment should be mounted only in earthed racks and cabinets.

Always make the ground connection first and disconnect it last. Do not connect telecommunication cables to ungrounded equipment. Make sure that all other cables are disconnected before disconnecting the ground.

Connection of AC Mains

Make sure that the electrical installation complies with local codes.

Always connect the AC plug to a wall socket with a protective ground.

Always connect the power cord first to the equipment and then to the wall socket. If a power switch is provided in the equipment, set it to the OFF position. If the power cord cannot be readily disconnected in case of emergency, make sure that a readily accessible circuit breaker or emergency switch is installed in the building installation.

Connection of DC Mains

Unless otherwise specified in the manual, the DC input to the equipment is floating in reference to the ground. Any single pole can be externally grounded.

Due to the high current capability of DC mains systems, care should be taken when connecting the DC supply to avoid short-circuits and fire hazards.

DC units should be installed in a restricted access area, i.e. an area where access is authorized only to qualified service and maintenance personnel.

Make sure that the DC supply is electrically isolated from any AC source and that the installation complies with the local codes.

Before connecting the DC supply wires, ensure that power is removed from the DC circuit. Locate the circuit breaker of the panel board that services the equipment and switch it to the OFF position. When connecting the DC supply wires, first connect the ground wire to the corresponding terminal, then the positive pole and last the negative pole. Switch the circuit breaker back to the ON position.

A readily accessible disconnect device that is suitably rated and approved should be incorporated in the building installation.

Preventing Electrostatic Discharge Damage

Modules which can be plugged into chassis are sensitive to damage from static electricity. Conversely, static voltages as high as 35,000V can be generated just by handling plastic or foam packing material, or by sliding assemblies across plastic and carpets. Not exercising the proper electrostatic discharge (ESD) precautions can result in intermittent or complete component failures. To minimize the potential for ESD damage, observe the following guidelines:

• Always use an ESD-preventive antistatic wrist strap or ankle strap and ensure that it makes good skin contact.

• When removing or installing a component, make sure the equipment end of your antistatic strap leash is connected to the ESD connection sockets on the front of the chassis or to a bare metal surface on the chassis. Avoid contact between the component and your clothing. The wrist strap only protects the component from ESD voltages on the body; ESD voltages on your clothing can still cause component damage.

• Always place a card component-side-up on an antistatic surface, in an antistatic card rack, or in a static shielding bag. If you are returning the item to the factory, immediately place it in a static shielding bag.

• Handle Modules by the metal card carrier edges only; Avoid touching the board or any connector pins.

Chapter 1 Overview

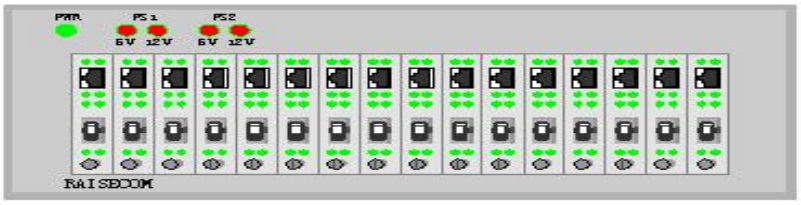
1.1 Chassis RC002-16

RC002-16 is a 3U 16-slot chassis that can accommodate all kinds of 3U-height service modules developed by Raisecom, including media converters, optical multiplexer, and interface converters, and etc.

The device models listed in the table below:

Model	Description	Dimension (mm)	Power Supply Requirement
RC002-16AC	16-slot, AC power supply, network manageable	440x131x410	220V AC,50Hz,80W
RC002-16DC	16-slot, DC power supply, network manageable	440x131x410	-48V DC,80W

The front panel:



Indicator Definition:

PWR:

Steady ON: the power supply for the chassis is working in order

PS1-5V:

OFF: the power supply module PS1 is supplying the modules normally

ON: the power supply module PS1 is NOT supplying the modules normally

PS1-12V:

OFF: the power supply module PS1 is supplying the fans normally

ON: the power supply module PS1 is NOT supplying the fans normally

PS2-5V:

OFF: the power supply module PS2 is supplying the modules normally

ON: the power supply module PS2 is NOT supplying the modules normally

PS2-12V:

OFF: the power supply module PS2 is supplying the fans normally

ON: the power supply module PS2 is NOT supplying the fans normally

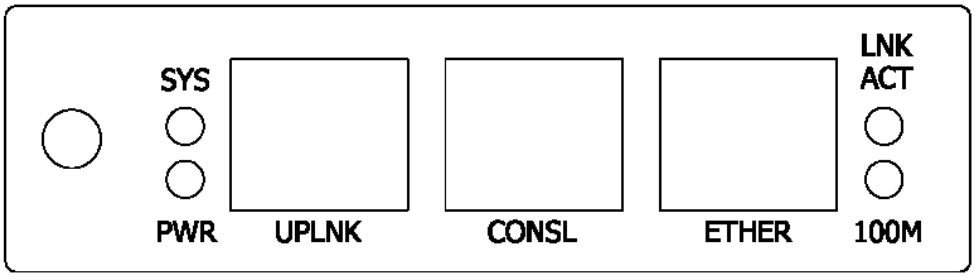
1.2 RC002-NMS1 Master Network Management Modules

RC002-16 is in support of SNMP management. The network management function is realized via the master network management module RC002-NMS1 in slot 0 of RC002-16.

Device Model

RC002-NMS1 (REV.C): master network management module for rack-mountable chassis

Panel:



Indicators on the Front Panel

SYS: indicator shows the working status of the network management module

Flickering: the network management module is working in order

OFF: the network management module is NOT working in order

PWR: indicator shows the power supply status of the network management module

Steady ON: the power supply is supplying the network management module normally

LNK/ACT: indicator shows the status of 10M/100M Ethernet signal.

Steady ON: the Ethernet cable is correctly connected

Flickering: data is being transmitted or received

100M: indicator shows the status of 10M/100M Ethernet signal.

ON: the Ethernet port is working at the rate of 100Mbps;

OFF: the Ethernet port is working at the rate of 10Mbps.

RJ-45 Interfaces on the Front Panel

UPLNK: Connectors of RC002-16-NMS1 module and RC001-NMS2 module, complies with RS-232.

CONSOLE: CONSOLE interface for the connection with PC serial port via RS-232 cable.

SNMP: 10/100M Ethernet interface, connected with Ethernet switches via straight-through network cable and connect with host PC via crossover network cable.

The Ethernet interface “SNMP” on the master network management module RC002-NMS1 has an IP address. By default, the IP address is 192.168.1.254. The master network management modules in one LAN are not allowed to share one IP address. Please configure the initial status of the master network management module RC002-NMS1 via its CONSOLE interface and assign an IP address for it before connecting the network cable.

Main functions of RC002-NMS1

- A 10/100M Ethernet port is available for the connection with a PC (the manager of network management system)
- The communication with slave network management module RC001-NMS2 enables the forming of RC002 cascade.
- Collect working status information and alarm information of the service modules in the slot 1~15 in both the RC002-16 with RC002-NMS1 and other RC002-16 in a cascade, and complete some configurations of these service modules.
- Collect status information, like chassis temperature, fan rotation speed, power supply status, and etc., of the RC002-16 with RC002-NMS1 and other RC002-16 in the same cascade.

1.3 RC001-NMS2 Slave Network Management Module

In a rack-mountable 16-slot chassis master network management module RC002-NMS1 can form a cascade with a rack-mountable 16-slot chassis which has three slave network management modules RC001-NMS2; it means that slave network management module can manage at most 60 service modules. There is no limitation on master network management module in a LAN.

1.4 Agent Program

The Agent program resides and runs in RC002-NMS1. It is the drive of the realization of all network management functions. The Agent program may be required to be upgraded every now and then to be able to manage over new service modules.

For RC002-NMS1 (REV.C), the Agent program should above version 7.0.0. Please note that different versions of Agent program have to be working with different BOOTROM program.

1.5 Network Management Platform and Element Management System

RC002-16 can be managed on the NView NNM (Network Node Management) system developed by Raisecom. NView NNM is a new generation product of integrated network node management system based on SNMP protocol. It aims at access network and emphasizes on centralized configuration and fault detection of all-series network manageable devices of Raisecom. With NView NNM and EMS (Element Management System) installed on a PC, RC002-16 and all service modules in it as well as the remote devices connection to there service modules can be monitored and managed on a GUI interface, which makes the network management simple and easy.

Chapter 2 Hardware Installation

2.1 Installation of RC002-NMS1

There are three interfaces on the front panel of RC002-NMS1.

CONSOLE interface **CONSOLE** (in the form of RJ-45): The initial configuration of network management is completed via the connection of CONSOLE interface and simulation terminal. The connection parameters are the same as the default values in Hyper Terminal (baud rate: 9600; data bit: 8; parity: None; stop bit: 1; flow control: None).

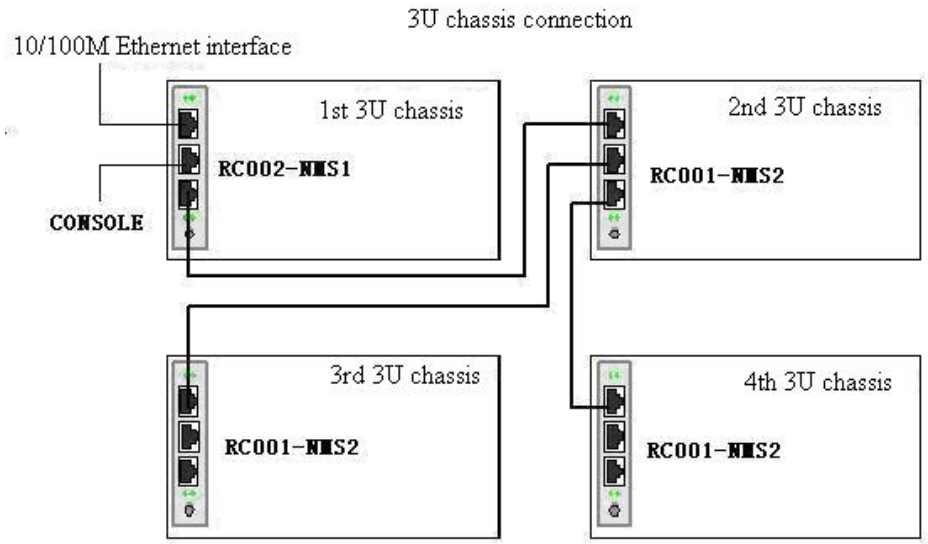
Ethernet interface **SNMP** (in the form of R-J45): A 10/100M auto-negotiation Ethernet interface for the access to TCP/IP network management interface and the communication with the network management platform. Note that when connect with Ethernet switches, straight-through network cable should be applied; when connect with host PC, crossover network management cable should be applied.

Cascade interface **UPLNK** (in the form of RJ-45): Comply with RS-232. Connected with the RC001-NMS2 modules with in other RC002-16 using serial cable can form RC002 cascade. Please note that straight-through network cable should be applied.

RC002-NMS1 can only be installed into the slot 0 (which is on the leftmost side) of RC002-16 chassis.

2.2 Installation of RC001-NMS2

There are three interfaces on the front panel of RC001-NMS2 and all of them are cascade interfaces. It connected with master network management module RC002-NMS1 using straight-through network cable, which enables more service modules. One master network management modular can support three slave network management modules, which supports sixty service modules at most.



Chapter 3 Agent Setup

3.1 General Connection

3.1.1 Management through the CONSOLE interface

Please connect the CONSOLE interface on RC002-NMS1 with the COM interface on the PC. In Windows operation system, run the “Hyper Terminal” program or a third-party serial port connection tool, and configure the parameters as follows:

Baud rate: 9600

Data bit: 8

Parity bit: None

Stop bit: 1

Flow control: None

Press ‘Enter’ for several times and the system CLI interface will be ready for the network management.

3.1.2 Remote Management through TELNET

After assigning an IP address for the RC002-NMS1 via the CONSOLE interface, RC002-NMS1 can be managed remotely via TELNET.

3.2 Instructions on BOOTROM

In BOOTROM mode, users are able to perform management and maintenance operations on the FLASH memory and the files stored in it.

When the RC002-NMS1 is just connected to the power supply and is starting, there will be a prompt on the system interface to ask the user whether to enter the BOOTROM mode or not. The prompt will last for 3 seconds. Please press the space key if you decide to enter the BOOTROM mode.

System Prompt

raisecom

Commands in BOOTROM mode

?- list all available commands

c- Change parameters when upgrading the firmware through FTP download

e- Format the flash sector where the firmware (AGENT program) resides

h- List all available commands

r- Reboot the system

u- Upgrade the firmware through FTP download

Below is an example of using command "c". The contents in "/* */" are comments, that is, information input by users.

raisecom: **c**

'.' = clear field; '-' = go to previous field; ^D = quit

boot device : sng0

processor number : 0

host name : host

file name : RC002 /*the name of the file to be downloaded*/

inet on ethernet (e) : 192.168.223.64 /*the IP address of this equipment, can be specified by user*/

inet on backplane (b) :

host inet (h) : 192.168.223.98 /*the IP address of FTP server*/

gateway inet (g) :

user (u) :target /*FTP user name*/

ftp password (pw) (blank = use rsh): target /*FTP password*/

flags (f) : 0x0

target name (tn) : agent

startup script (s) :

other (o) :

3.3 Instruction for Using the Command Lines

3.3.1 Command Line Mode

Mode	Description	Access (Default User Name and Password)	Prompt
User EXEC	Users are authorized to have basic information and parameters be shown.	User name: raisecom Password: :raisecom	raisecom>
Privileged EXEC	Users are authorized to configure basic information. Configuring running information is not authorized.	Using command **enable** in the User EXEC mode Password: raisecom	raisecom#
CONFIG	Users are authorized to configure the interface parameters of RC002-NMS1	Using command **config** in the Privileged EXEC mode	raisecom(config)#

SNMP	Users are authorized to configure the SNMP parameters of RC002-NMS1	Using the command **SNMP** in the CONFIG mode.	raisecom (config-SNMP)#

3.3.2 Getting Help Information

Command	Function Description
help	Get a brief description of the system in Chinese or English
Specific String **?**	Get a list of commands that begin with a specified string (*abbreviated-command-entry*) For example: raisecom>**en?** **enable**
Specific String <**Tab**>	Get the whole command begin with a specified string For example: raisecom #**show ver**<TAB> raisecom#**show version**
?	List all the available commands in the current mode. For example: raisecom#**?**
command ?	List all the keywords and options of a command, and get a brief help information at the same time. raisecom#**show ?**

3.3.3 Using the Historical Commands

By default, the system will keep 20 entries of historical commands in the memory. Users can set up the number of kept entries by the following command.

raisecom#**terminal history** *<0-20>*

Command **history** is used to have all kept command entries displayed.

3.3.4 Editing properties

up arrow: last command entry

down arrow: next command entry

left arrow: move the cursor left by one character

right arrow: move the cursor right by one character

backspace: delete the character on the left of the cursor

Ctrl+d:	delete the character on the right of the cursor
Ctrl+a:	move the cursor to the beginning of the line
Ctrl+e:	move the cursor to the end of the line
Ctrl+k:	delete all characters on the right of the cursor
Ctrl+z:	quit from a non-privileged mode and enter the Privileged EXEC mode

3.4 System Command

3.4.1 Basic System Commands

clear	Clear the screen
enable	Enter the Privileged EXEC mode
exit	Back to the last command line mode or log out
help	Show help information of the system
history	Show historical commands
list	List all available commands in the current command line mode
show ip	Show IP address, subnet mask and gateway configuration
show sntp	Show relevant information of SNTP
ping *A.B.C.D*	Ping the device with IP address A.B.C.D
quit	Back to the mode of upper level or log out
terminal history *<1-20>*	Change the number of command entries kept in the memory
terminal time-out *<0-65535>*	Change the configuration of terminal timeout
disable	Quit from the Privileged EXEC mode and back to the initial mode
logout	Log out
reboot	Reboot the master network management module RC002-NMS1
show version	Show the version information of the system
show terminal	Show the running status of the terminal of the system
write	Save the current configuration information
hostname *HOSTNAME*	hange hostname
no hostname	Restore to the default hostname

3.4.2 User Management

By default, the user name of the system is “raisecom”, and the password is “raisecom” too. This user is the super user.

3.4.2.1. User Login

[Command]

user login *{ local-user | radius-user | local-radius | radius-local }*

[Command Line Mode]

CONFIG mode

Privileged EXEC mode (privilege 15)

[Function]

Set up user login authentification mode.

[Parameters]

local-user: using local user configuration file to authenticate user profile

radius-user: using RADIUS server to authenticate user profile

local-radius: authenticate the user firstly using the local configuration file, if failed, using RADIUS server to authenticate the user again

radius-local: authenticate the user firstly using the RADIUS server, if failed, using local configuration file to authenticate the user again

[Default]

Using local user configuration file to authenticate user profile

[Instructions]

For the users that authenticate via RADIUS protocol, the hostname is “Raisecom”, the prompt is “ENTER” and “Newline” by default. The privilege of the user is 15 by default.

[Command Execution Echo]

Set User Login Method unsuccessfully.

The above information will appear when the setup failed. Please check whether the input parameters are correct or not.

Set User Login Method successfully.

The above information will appear when the setup succeeded.

[Example]

Set that the user login authentification mode is local-user authentification.

Raisecom# **user login** *local-user*

[Relevant Commands]

Command	Description
radius *host*	Set the IP address of the RADIUS authentication server.
radius-key	Set up the shared key of the user and the server when RADIUS authenticates the server.

3.4.2.2. Add a New User

	Command	Description
1	**user** *USERNAME* **password** *PASSWORD*	*USERNAME*: user name **password**: password keyword *PASSWORD*: password content
2	**user** *USERNAME* **privilege** *<1-15>*	*USERNAME*: user name <*1-15*>: user privilege, can be from 1 to 15
3	**password**	Change the password of the current user
4	**no user** *USERNAME*	Delete the user with the specified user name. *USERNAME*: user name
5	**write**	Save the configuration information
6	**show user**	Display user information

3.4.2.3. Delete a User

[Command]

no user *USERNAME*

[Command Line Mode]

CONFIG mode

Privileged EXEC mode (privilege 15)

[Instructions]

There must be a user with user privilege 15 in the system user database. Only users with user privilege 15 are authorized to delete a user.

[Command Execution Echo]

You have no enough right to change user information!

The message will be shown when a user with user privilege lower than 15 tries to add a new user. Log out and log in as a user with user privilege 15, the same operation will succeed.

3.5 Configuration of Network Management Functions

3.5.1 Configuration of Ethernet interface

The IP related configurations are completed in the CONFIG mode.

3.5.1.1 Enter the CONFIG mode

[Command]

In the Privileged EXEC mode

config

[Command Execution Echo]

raisecom(config)#

3.5.1.2 Assign IP address

[Command]

ipaddr *A.B.C.D* **mask** *A.B.C.D* **gateway** *A.B.C.D*

[Command Execution Echo]

Set successfully!

please execute "write" to save!

[Example]

Set the IP address of RC002-NMS1 to 192.168.223.89, subnet mask to 255.225.255.0, and gateway to 192.168.223.1

Raisecom(config)# **ipaddr** *192.168.223.89* **mask** *255.225.255.0* **gateway** *192.168.223.1*

3.5.1.3 Enable/Disable auto-negotiation function of Ethernet port

[Command]

autonego *(enable|disable)*

[Command Execution Echo]

set command success

if you want to save it, please execute "write" to save!

[Example]

raisecom(config)#**auto enable**

3.5.1.4 Set the rate and duplex mode of Ethernet port

[Command]

speed *(10|100)* **duplex** *(full|half)*

[Command Execution Echo]

set command success

if you want to save it, please execute "write" to save!

[Example]

raisecom(config)#**speed** *100* **duplex** *full*

3.5.1.5 Show Ethernet port information

[Command]

show eth

[Command Execution Echo]

STAUS: link up

AUTO: enable

Speed: 100M

Duplex: FULL

[For Example]

raisecom(config)**# show eth**

3.5.2 Configuration of clock, time zone and daylight saving time

All the following commands are available in the CONFIG mode.

3.5.2.1 Enter the CONFIG mode

[Command]

In the Privileged EXEC mode

config

[Command Execution Echo]

raisecom(config)#

3.5.2.2 Configuration of clock

[Command]

clock set

[Function]

Change the date and time of system

clock set *<0-23> <0-59> <0-59> <2000-2099> <1-12> <1-31>*

[Parameter]

<0-23>: hour;

<0-59>: minute;

<0-59>: second;

<2000-2099>: year;

<1-12>: month;

<1-31>: day;

[Command Line Mode]

CONFIG mode; Privileged EXEC mode

[Command Execution Echo]

System time changed successfully

Current system time: 06/06/2006 13:34:00 +08:00(DST)

For a successful operation.

Current system time: 06/06/2006 13:34:00 +08:00(DST)

The message will be shown when the date or time set is invalid. The date and time information shows the current system time.

No 30th or 31th in Feb. in leap year

The message will be shown when try to set the date to Feb.30 or Feb.31 in a leap year.

No 29th, 30th or 31th in Feb.

The message will appear when try to set the date to Feb.29, Feb.30 or Feb.31 in a year that is not a leap year.

No 31th in the month

The message will be shown when try to set the date to Apr.31, Jun.31, Sep.31 or Nov.31.

[Example]

Change the system date to September 30th, 2003 and time to 8:30 0 second

raisecom # **clock set** *8 30 0 2003 9 30*

[Relevant Commands]

Command	Description
show clock	Show current system date and time information.

3.5.2.3 Enable the daylight saving time

[Command]

clock summer-time *{enable|disable}*

[Function]

Enable or disable daylight saving time.

[Parameter]

enable: enable daylight saving time

disable: disable daylight saving time

[Default]

disabled

[Command Line Mode]

CONFIG mode; Privileged EXEC mode

[Instructions]

When the daylight saving time function is enabled, users can save the configuration to the FLASH of the system and the configuration will not change even if the power supply is down.

[Command Execution Echo]

Set successfully

[Example]

Enable the daylight saving time function.

raisecom # **clock summer-time** *enable*

[Relevant Commands]

Command	Description
show clock	Show system date and time information.
clock summer-time recurring	Set the beginning and end of the daylight saving time period.

3.5.2.4 Set the beginning and end of summer-time period

[Command]

clock summer-time recurring *<1-5> (sun | mon | tue | wed | thu | fri | sat)* **}** *<1-12> <0-23> <0-59> <1-5> (sun | mon | tue | wed | thu | fri | sat) <1-12> <0-23> <0-59> <1-1440>*

[Function]

Set the start/stop time and the shifting of summer-time.

[Parameter]

<1-5>: summer-time begins from which week of this month, 5 means the last week

Week day: summer-time begins from which weekday (Sunday:sun, Saturday: sat)

<1-12>: summer-time begins from which month

<0-23>: summer-time begins from which clock of the day

<0-59>: summer-time begins from which minute of the hour

<1-5>: summer-time stops form which week of this month, 5 means the last week

Weekday: summer-time stops from which weekday (Sunday: sun, Saturday: sat)

<1-12>: summer-time stops from which month

<0-23>: summer-time stops from which clock of the day

<0-59>: summer-time stops from which minute of the hour

<1-1440>: shifting minutes of the summer-time

[Default]

The daylight saving time is disabled in default.

[Command mode]

CONFIG mode ; Privileged EXEC mode

[Instructions]

This command is used to set the start/stop time and shifting of summer-time. The format of start and stop time is like: xx month, the nth (or last) weekday, hh hour and mm minutes. Eg: summer-time has been used in China is that: In each year from 2 o'clock of the second Sunday of April to 2 o'clock of th second Sunday of September, the clock should be changed one hour faster than before, that is to say the time shifting is 60. Users can save the configuration in the system FLASH using commands "write", and the configuration will not disappear even if the power supply is down.

[Command Execute Echo]

Set successfully

For a successful operation.

Error start week

When input weekday is invalid.

[Example]

Configure the summer-time like: In each year from 2 o'clock of the second Sunday of April to 2 o'clock of the second Sunday of September, the clock should be changed one hour faster than before.

raisecom# **clock summer-time recurring** *2 sun 4 2 0 2 sun 9 2 0 60*

[Relevant Commands]

Command	Description
show clock	Show system date and time information
clock summer-time	Enable or disable daylight saving time.

3.5.2.5 Configure the time zone

[Command]

clock timezone *(+|-) <0-11> <0-59>*

[Function]

Set time zone

[Parameters]

(+|-): "+" indicates the Eastern Hemisphere, "-": the Western Hemisphere

<0-11>: time difference by hour between local time and UTC

<0-59>: time difference by minute between local time and UTC

[Default]

Beijing time: GMT+08:00

[Command Line Mode]

CONFIG mode; Privileged EXEC mode

[Instructions]

Users can save the configuration in the system FLASH using commands “write”, and the configuration will not disappear even if the power supply is down.

[Command Execution Echo]

Set successfully

For a successful operation.

[Example]

Set time zone to GMT -5:40, that is, western hemisphere and the time difference is 5 hours and 40 minutes.

raisecom# **clock timezone** - *5 40*

[Relevant Commands]

Command	Description
show clock	Show system date and time information.

3.5.2.6 Show system time

[Command]

show clock

[Function]

Show current system time

[Command Line Mode]

CONFIG mode; Privileged EXEC mode

[Example]

raisecom(config)# **show clock**

Current system time: 05/23/2006 17:01:22 +08:00(DST)

[Relevant Commands]

Command	Description
clock summer-time recurring	Set the start/stop time of daylight saving time.
clock summer-time	Enable/Disable daylight saving time.
clock timezone	Set time zone.

clock set	Set current system time.

3.5.2.7 Show configuration information of daylight saving time

[Command]

show clock summer-time-recurring

[Function]

Show the current configuration information of system time, time zone and daylight saving time.

[Command Line Mode]

CONFIG mode

Privileged EXEC mode

[Example]

raisecom# **show clock summer-time-recurring**

Current system time: 06/06/2006 13:31:44 -08:00

Summer time recurring: Disable

raisecom#**show clock summer-time-recurring**

Current system time: 06/06/2006 14:01:04 -08:00(DST)

Summer time recurring: Enable

Summer time start: week 1 Tuesday June 12 00

Summer time end: week 1 Tuesday June 15 00

Summer time Offset: 30 min

[Relevant Commands]

Command	Description
clock summer-time recurring	Set the start/stop time of daylight saving time.
clock summer-time	Enable/Disable daylight saving time.
clock timezone	Set time zone.
clock set	Set current system time.

3.5.3 Configuration of SNMP

The commands for the configuration of **SNMP** are available in the CONFIG-SNMP mode.

3.5.3.1 Enter SNMP mode

[Command]

In CONFIG mode

snmp

[Command Execution Echo]

raisecom(config-SNMP)#

3.5.3.2 Configure community name

[Command]

snmp-server community *COMMUNITY (ro|rw)*

[Parameter]

ro: read only

rw: read&write

[Example]

raisecom(config-SNMP)# **snmp-server community** *public ro*

3.5.3.3 Enable/disable TRAP

[Command]

snmp-server trap *(enable|disable)*

[Function]

Enable/disable TRAP

[Example]

raisecom(config-SNMP)# **snmp-server trap** *enable*

3.5.3.4 Assign MANAGER and port number of a TRAP

[Command]

snmp-server trap *<1-8>* **target** *A.B.C.D* **port** *<1-65536>*

[Parameter]

trap: the number of MANAGER (8 at most)

target: the IP address of Manager

port: the port number

[Example]

Set the first TRAP address, IP 192.168.1.1; Port 162

raisecom(config-SNMP)# **snmp-server trap** *1* **target** *192.168.1.1* **port** *162*

3.5.3.5 Delete the Trap Manager

[Command]

no snmp-server trap *<1-8>*

[Function]

Delete a Trap Manager

[Example]

raisecom(config-SNMP)# **no snmp-server trap** *1*

3.5.3.6 Remove all the TRAP Manager configuration

[Command]

snmp-server trap clear

3.5.3.7 Set Contact information

[Command]

snmp-server contact *STRING*

[Example]

Set the contact information to “admin”

raisecom(config-SNMP)# **snmp-server contact** *admin*

3.5.3.8 Set ID information

[Command]

snmp-server id *<0-65536>*

[Description]

Set ID information

[Example]

Set the ID to “5”

raisecom(config- SNMP)# **snmp-server id** *5*

3.5.3.9 Set location information

[Command]

snmp-server location *LOCATION*

[Function]

Set the location information of the equipment

[Example]

Set the location of the equipment to “haidian”

raisecom(config- SNMP)# **snmp-server location** *haidian*

3.5.3.10 Set the Name information

[Command]

snmp-server name *NAME*

[Description]

Set the name of the equipment

[Example]

Set the name of the equipment to “RC002”

raisecom(config-SNMP)# **snmp-server name** *RC002*

3.5.3.11 Set the threshold of system temperature

[Command]

snmp-server temperature *<0-100>*

[Function]

Set the threshold of the chassis temperature. When the temperature exceeds the threshold, the system will send TRAP to the network management platform.

[Example]

Set the temperature of the chassis to 20

raisecom(config-SNMP)# **snmp-server temperature** *20*

3.5.3.12 Restore to the default SNMP community

[Command]

load default community

[Description]

Restore to the default settings of SNMP community

[Example]

raisecom(config-SNMP)#**load default community**

3.5.3.13 Query SNMP information

[Command]

show snmp

[Function]

Show SNMP configuration information.

[Example]

raisecom(config- SNMP)# **show snmp**

System name: unknown

System contact: unknown

System location: unknown

System ID: 1

System level: 1

System Temperature Alarm Threshold: 50

Read Community: public

Write Community: private

Send trap status: Enable

Trap sink	*Target Address*	*Target Port*
1	*0.0.0.0*	*162*
2	*0.0.0.0*	*162*
3	*0.0.0.0*	*162*
4	*0.0.0.0*	*162*
5	*0.0.0.0*	*162*
6	*0.0.0.0*	*162*
7	*0.0.0.0*	*162*
8	*0.0.0.0*	*162*

3.5.4 Configuration of SNTP

The system supports SNTP (Simple Network Time Protocol) Client to acquire current system time.

All the commands for the SNTP configuration are available in the CONFIG mode.

3.5.4.1 Enter CONFIG mode

[Command]

In the Privileged EXEC mode

config

[Command Execution Echo]

raisecom(config)#

3.5.4.2 Obtain time from a specified SNTP server

[Command]

sntp server *A.B.C.D*

[Example]

Obtain time from the host with IP address 192.168.1.10

raisecom(config)# sntp server *192.168.1.10*

3.5.4.3 Stop obtaining time from a specified SNTP server

[Command]

no sntp server

[Example]

Stop obtaining time from the host with IP address 192.168.1.10

raisecom(config)# **no sntp server**

3.5.5 Setup RADIUS

The system supports RADIUS user login authentication. It will send the user name and the password of the login user to the RADIUS server to process the authentification. The corresponding configuration must be completed in the CONFIG mode.

3.5.5.1 Enter the CONFIG Mode

[Command]

config

[Command Execution Echo]

raisecom(config)#

3.5.5.2 Set up/Delete the IP Address of the RADIUS Server

[Command]

[no] radius *A.B.C.D*

[Description]

Set up/Delete the IP address of the RADIUS server, and send user name and password to the server for authentication.

[Example]

Set 192.168.1.10 to be the IP address of the RADIUS server:

raisecom(config)# **radius** *192.168.1.10*

3.5.5.3 Set up/Delete the shared key used by user and server when RADIUS authenticates the server

[Command]

[no] radius-key

[Description]

Set up/Delete the shared key of the user and the server used when RADIUS authenticates the server.

[Example]

Set up the shared key of the user and the server used when RADIUS authenticates the server to be “raisecom”.

raisecom(config)# **radius-key** *raisecom*

Chapter 4 System Maintenance

4.1 Maintenance Tasks

Management of configuration files: view and store configuration files in the system, export configuration files to external storage, and import configuration files from external storage.

Management of Agent program: view the information of the program, export Agent program to external storage, and upgrade Agent program.

When the configuration file or Agent program goes between RC002-NMS1 and the external storage, RC002-NMS1 is considered as a FTP client and the PC where the external storage resides is configured to be a FTP server. After specifying an account on the server, the client (RC002-NMS1) should have corresponding settings.

4.2 Configuration File Management

- The current configuration of the system is stored in the following files.

system.txt

hostconf.txt

slotconf.txt;

- Users can use command "**write**" to save the configuration files to FLASH memory. The system will load the configuration information during the next startup automatically.
- Users can use command "**download/upload**" to exchange configuration files between RC002-NMS1 and external storage, via FTP or TFTP

4.2.1 View Information of Configuration Files

[Command]

dir *(c:|d:)*

[Function]

View information of the files in the FLASH memory.

[Parameters]

c: files in the system file section

d: files in the configuration file section

[Example]

Read the configuration file section

raisecom#**dir** *d:*

size *date* *time* *name*

```
-------------------------------------------
   269     Jan-01-1980   00:00:00   hostconf.txt
  1340     Jan-01-1980   00:00:00   system.txt
    81     Jan-01-1980   00:00:00   usercfg.txt
  7680     Jan-01-1980   00:00:00   slotconf.txt
```

4.2.2 Save the Current Configuration

[Command]

write

[Function]

Save current system configuration.

[Command Line Mode]

Privileged EXEC mode

[Example]

raisecom# **write**

Writing running-config to flash, please wait...

Successfully write to flash

4.2.3 Delete the Configuration

[Command]

del *FILENAME*

[Function]

Delete the specified configuration file

[Command Line Mode]

Privileged EXEC mode

[Example]

raisecom#**del** *slotconf.txt*

delete file slotconf.txt successfully.

4.2.4 Export Current Configuration

[Command]

upload startup-config *(tftp | ftp)*

[Function]

Export the current system configuration file to an external storage, via TFTP or FTP protocol.

[Command Line Mode]

Privileged EXEC mode

[Additional Parameter]

File name (system.txt; hostconf.txt; slotconf.txt)

system.txt: SNMP-relevant information in the Agent, including IP address and port number for TRAP receiving, system contact information, system name, location, community string, temperature threshold, and alarm enabling status.

hostconf.txt: information about the Agent, including IP address, subnet mask, bit rate at the Ethernet port, duplex mode, auto-negotiation enabling status, and SNTP configuration information

slotconf.txt: the configuration information of all the service modules in chassis.

[Example]

raisecom#**upload startup-conf** *ftp*

Please input server IP Address: 192.168.1.251

*Please input FTP User name:*target

*Please input FTP Password:*target

Please input FTP Server File Name: slotconf.txt

4.2.5 Import System Configuration

[Command]

download startup-config *(tftp | ftp)*

[Function]

Import configuration files save on an external storage to RC002-NMS1 system, via TFTP or FTP protocol.

[Command Line Mode]

Privileged EXEC mode

[Additional Parameters]

File name (system.txt; hostconf.txt; slotconf.txt)

[Example]

raisecom#**download startup-config** *ftp*

Please input server IP Address: 192.168.1.251

Please input FTP User name:target

Please input FTP Password:target

Please input FTP Server File Name: hostconf.txt

Loading, please wait...

Loading: 268 ... done

Writing to flash, please wait...

.finished

You've successfully download new config file

new config works after the device reboots ...

4.2.6 Delete the configuration files of local cards

[Command]

erase slot *<1-4> <1-15>*

[Function]

Delete the configuration information of the local card in chassis <1-4> slot <1-15>.

[Parameter]

<1-4>: chassis index

<1-15>: slot index

[Command Line Mode]

Privileged EXEC mode

[Command Execution Echo]

Set successfully!

please execute “write” to save!

[Example]

Delete the configuration information of the card in chassis 1 slot 4.

raisecom# **erase slot** *1 4*

4.2.7 Delete the configuration file on the first-layer remote card

[Command]

erase device1 *<1-4> <1-15> <1-2>*

[Function]

Delete the configuration information of the first-layer remote card with device ID <1-2> and is connecting to the card in chassis <1-4> slot <1-15>.

For point-to-point application, the device ID is always 1.

[Parameter]

<1-4>: chassis index

<1-15>: slot index

<1-2>: remote device ID

[Command Line Mode]

Privileged EXEC mode

[Command Execution Echo]

Set successfully!

please execute "**write**" to save!

[Example]

Delete the configuration information of the first-layer remote card with the device ID 1 and is connecting to the card in chassis 1 slot 4.

raisecom# **erase device1** *1 4 1*

4.2.8 Delete the configuration file on the second-layer remote card

[Command]

erase device2 *<1-4> <1-15> <1-4>*

[Function]

Delete the configuration information of the second-layer remote card with device ID <1-4> and is connecting to the card in chassis <1-4> slot <1-15>.

[Parameter]

<1-4>: chassis index

<1-15>: slot index

<1-4>: second-layer remote device ID

[Command Line Mode]

Privileged EXEC mode

[Command Execution Echo]

Set successfully!

please execute "**write**" to save!

[Example]

Delete the configuration information of the second-layer remote card with the device ID 1 and is connecting to the card in chassis 1 slot 4.

raisecom# **erase device2** *1 4 1*

4.3 Start File Management (the Agent Program)

- Agent program file is based on embedded operation system. The SNMP function will be loaded when the power supply is on.
- Use command "**dir**", users can view the files in FLASH memory.
- Use command "**show version**", users can view the software version information.

4.3.1 View information of the Agent Program

[Command]

dir *(c:|d:)*

[Function]

View files information in the FLASH memory.

[Parameters]

c: files in system file section

d: files in configuration file section

4.3.2 Export the Agent Program

[Command]

upload system-boot *(tftp | ftp)*

[Function]

Export the current Agent program to an external storage, via TFTP or FTP protocol.

[Command Line Mode]

Privileged EXEC mode

[Additional Parameters]

File name

[Example]

The text in "/* */" is the comments. The corresponding parameter is specified by users.

raisecom# **upload system-boot** *ftp*

Please input server IP Address: 1.0.0.1

*Please input FTP User name:*test

*Please input FTP Password:*test

Please input FTP Server File Name: /* Any file name*/

4.3.3 Import Agent Program (Agent program upgrade)

[Command]

download system-boot *(tftp | ftp)*

[Function]

Upgrade the Agent program, via TFTP or FTP protocol.

[Command Line Mode]

Privileged EXEC mode

[Additional Parameters]

The text in "/* */" is the comments. The corresponding parameters are left for user to specify.

[Example]

raisecom# **download system-boot** *ftp*

Please input server IP Address: 1.0.0.1

*Please input FTP User name:*test

*Please input FTP Password:*test

Please input FTP Server File Name: /* the Agent program name on external storage*/

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